

REMARKS

Reconsideration of this Application is respectfully requested. Claims 1 through 5, 7, 8, 10 through 19, 21, 22, and 24 through 28 are pending in the application with claims 6, 9, 20, and 23 having been cancelled and claims 1, 7, 14, 15, 21, and 28 having been amended. Entry of these amendments is respectfully requested as it is believed they place the application in condition for allowance or in better condition for appeal.

The amendments to the specification have been made to correct typographical errors in the application as filed. Support for the amendment to page 4, line 6 appears in the specification as filed in claims 12, 14, 26, and 28. The amendment to page 5, lines 16-17 inserts "phenyl" where it was inadvertently omitted. This is technically obvious, since the paragraph in which it appears is a listing of secondary diarylamines and the N-isopropyl-N'-p-phenylenediamine that appears in the list is not a diarylamine.

The present invention is directed to a composition comprising lubricating oil and at least a first antioxidant and a second antioxidant, the first antioxidant being a secondary diarylamine and the second antioxidant being a 2,2,4-trialkyl-1,2-dihydroquinoline or a polymer thereof.

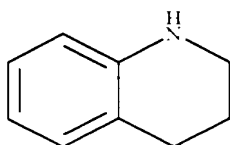
Claims 1- 28 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al. taken with Meier et al., Evans, and Rasberger et al.

Jones et al. discloses a combination of oxidation inhibitors consisting of a mixture of hydrogenated quinolines and conventional types of oxidation inhibitors. The quinolines employed by Jones et al. comprised those having either the heterocyclic ring or both the

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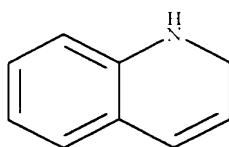
heterocyclic and the benzene rings of the compound *saturated* with hydrogen, for example, 1,2,3,4-tetrahydroquinoline and decahydroquinoline. See column 3, lines 1-6.

The basic ring structure of 1,2,3,4-tetrahydroquinoline is:



The second antioxidant of the present invention is 2,2,4-trialkyl-1,2-dihydroquinoline.

The basic ring structure of this compound is:



Thus, the compounds of the present invention have an additional double bond in the heterocyclic ring that is not disclosed or suggested by Jones et al. The claims of the present application have now been amended to point out with greater clarity the structure of the 2,2,4-trialkyl-1,2-dihydroquinolines that are used in the practice of Applicants' invention. Jones et al. simply do not teach such a structure or its use in lubricants.

None of the secondary references supplement this deficiency of Jones et al. According to the Examiner, Rasberger et al. have taught that 1,2-dihydroquinolines and 1,2,3,4-tetrahydroquinolines are interchangeable. This is in error.

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The invention of Rasberger et al. was directed to improving the performance of a particular kind of antioxidant combination: 1,2-dihydroquinolines and phenolics. They found that when 1,2,3,4-tetrahydroquinolines were used *with phenolics*, the combination provided excellent antioxidant action along with satisfactory corrosion behavior. In other words, they did not teach that the 1,2-dihydroquinolines were interchangeable with 1,2,3,4-tetrahydroquinolines, but, rather, that the 1,2,3,4-tetrahydroquinolines were superior to the 1,2-dihydroquinolines *when used with phenolics*.

The Examiner has argued that interchangeability is not the same as equivalence; however, she has failed to provide any support for this argument. Webster's Third New International Dictionary (Unabridged) defines "interchangeable" as meaning "permitting mutual substitution without loss of function or suitability." The same dictionary defines "equivalent" as meaning "corresponding or virtually identical esp. in effect or function." It is submitted that these two words are synonymous and that the Examiner's position that there is some significant difference between them - making Applicants' arguments fallacious and erroneous - is clearly untenable.

Rasberger et al. make no mention of 1,2-dihydroquinolines except in the discussion of the prior art in column 1 at lines 22-34. The designation "2,2,4,7-tetramethyl-1,2,3,4-dihydroquinoline" is given in column 2, at line 59, but it is clear from the context that this is a typographical error and that "tetrahydroquinoline" was intended.

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Further, Rasberger et al. do not confirm the present day use of tetrahydroquinolines with diarylamines *or* phenols, as alleged by the Examiner. Rather they teach, as one possibility, the combination of tetrahydroquinolines with diarylamines *and* phenols. See column 4, lines 55 to 69.

Finally, as pointed out above, neither Meier et al. nor Evans disclose using 1,2-dihydroquinolines in combination with a diarylamine; they speak only of the combination of 1,2,3,4- tetrahydroquinolines with various other additives, including diarylamines. The Evans reference, in fact, shows that dihydroquinone derivatives and tetrahydroquinone derivatives are patentably distinct. See column 1, lines 9-57.

Additionally, Meier et al. only discloses 1,2,3,4- tetrahydroquinolines wherein the ring nitrogen atom is substituted, i.e., a tertiary amine. The present claims have been amended to be clearly directed to 1,2-dihydroquinolines in which the ring nitrogen atom is unsubstituted, i.e., a secondary amine.

Accordingly, it is requested that the rejection of claims 1- 28 under 35 U.S.C. 103(a) as being unpatentable over Jones et al. taken with Meier et al., Evans, and Rasberger et al. be withdrawn.

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In view of the foregoing, it is submitted that this application is in condition for allowance and an early Office Action to that end is earnestly solicited.

Respectfully submitted,

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Date

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